UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,160	12/12/2003	Sridhar Balasubramanian	03-1840	1647

7590 06/23/2006

LSI Logic Corporation
Legal Department - IP
1621 Barber Lane, MS D-106
Milpitas, CA 95035

EXAMINER	
GU, SHAWN X	

ART UNIT	PAPER NUMBER
2189	

DATE MAILED: 06/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/735,160	BALASUBRAMANIAN, SRIDHAR	
	Examiner	Art Unit	
	Shawn Gu	2189	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 April 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This final Office action is in response to the amendment filed on 3 April 2006. Claims 1-20 are pending. All objections and rejections not repeated below are withdrawn.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-12, 14, 15 and 18-20 are rejected under U.S.C. 102(e) as being anticipated by Coombs [US 2003/0177149 A1] (hereinafter "Coombs").

Per claims 1, 12 and 18, Coombs teaches a storage controller (Fig 1, combination of CPU 12, Device Controller 20, Memory 14, Network Controller 18 and I/O Controller 16), comprising:

a processor (Fig 1, CPU 12);

a memory (Fig 1, Memory 14) electrically coupled to the processor;

an externally accessible socket interface (Fig 1, must be in Device Controller 20 or I/O Controller 16), wherein the externally accessible socket interface provides an electrical connection to the processor;

backup parameters, set by an operator, that define how a backup operation will be executed (full backup or incremental backup, user defined time and frequency, see Pg. 2, Para. [0027] and [0028] and Pg. 3, Para. [0029]-[0032]));

invoking means for invoking a backup operation using the backup parameters (the backup method and parameters described above are used in backup operations, see Fig. 2, 3a and 3b); and

responsive to a given event (user input to configure backup, such as user input to configure the time and frequency of backup, and choosing either full or incremental backup method, see Pg. 2, Para. [0027] and [0028]; Pg. 3, Para. [0029]-[0032]):

determining means for determining if a removable non-volatile memory module is electrically coupled to the processor through the external accessible socket interface (backing up data to the removable device requires determining whether the device is coupled to the processor or not, see Pg. 2, Para. [0022], [0027] and [0028]); and

responsive to the removable non-volatile memory module being electrically coupled to the processor, executing the backup operation to store configuration information ("system configuration files", see Pg. 2, Para. [0027] and [0028]) from the

memory to the removable non-volatile memory module (see Pg. 2, Para. [0027] and [0028]).

It is also clear that claim 1's method is performed by the storage controller disclosed in claim 12, which also substantially discloses claim 18's apparatus.

Per claims 2 and 14, Coombs further teaches the backup operation is invoked by one of an expiration of a period of time ("periodic", see Pg. 2, Para. [0027] and [0028]) and an instruction that was entered by an operator (user input, see Pg. 2, Para. [0029] and [0030]).

Per claim 3, Coombs further teaches the given event is a command that was entered by an operator through one of interface software (software and user input, see Pg. 3, Para. [0029] and [0030]; GUI, see Pg. 5, Para. [0055] and [0056]) and a boot menu console (Linux must have a boot menu console, see Pg. 2, Para. [0026]).

Per claims 4 and 19, Coombs further teaches responsive to a restore event, restoring the configuration information from the removable non-volatile memory module to the first storage controller ("restore to the same storage device from which it was originally copied", see Pg. 5, Para. [0054]).

Per claim 5, Coombs further teaches the restore event is a command that was entered by an operator through one of interface software (GUI and computer interface, see Pg. 5, Para. [0055] and [0056]) and a boot menu console (Linux must have a boot menu console, see Pg. 2, Para. [0026]).

Per claims 6 and 7, Coombs further teaches disconnecting the removable non-volatile memory module from the first storage controller and connecting the removable non-volatile memory module to a second storage controller (restoring the backup in the removable disk to a second storage device must be performed by disconnecting the disk from the first storage controller and connecting the disk to a second storage controller, see Pg. 5, Para. [0054]).

Per claims 8 and 20, Coombs further teaches responsive to a restore event, restoring the configuration information from the removable non-volatile memory module to the second storage controller (restore to a second device, see Pg. 5, Para. [0054]).

Per claim 9, Coombs further teaches the restore event is a command that was entered by an operator through one of interface software (GUI and computer interface, see Pg. 5, Para. [0055] and [0056]) and a boot menu console (Linux must have a boot menu console, see Pg. 2, Para. [0026]).

Per claim 10, Coombs further teaches determining whether the configuration information is compatible with the second storage controller ("verification step", see Pg. 4, Para. [0040], this step is applied to the backups, wherein a determination is made on which backup is later preferably used as parent backup when restoring to a second storage device, see Pg. 5, Para. [0057] and Fig. 4); and

Responsive to the configuration information not being compatible with the second storage controller, notifying an operator of incompatible configuration information ("A backup that does not pass verification ... is preferably not used as a parent backup" implies notification of incompatibility, see Pg. 4, Para. [0040] and Fig. 4).

Per claims 11 and 15, Coombs further teaches the configuration includes at least one of configuration data, firmware, bootware image, and component summary data (system configuration files, see Pg. 2, Para. [0027] and [0028]).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 13 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coombs [US 2003/0177149 A1], in further view of Bell [5,410,707] (hereinafter "Bell").

Per claim 13, Coombs does not specifically teach that the externally accessible socket interface is a Personal Computer Memory Card International Association (hereinafter "PCMCIA") card slot. However, Bell teaches a storage controller which backs up data to a non-volatile memory module through a PCMCIA card slot (see Bell, Col. 4, Ln. 35-43). Since Coombs teaches backing up data to a non-volatile memory module as describe above, it would have been obvious to one ordinarily skilled in the art at the time of the Applicant's invention to combine Bell's PCMCIA card slot to Coombs' storage controller, in order to enable backups to non-volatile memory modules that are compatible to PCMCIA standard.

Per claim 16, Coombs does not specifically teach that the removable non-volatile memory module is a flash memory module, although it does teach using flash memory to store configuration data (see Pg. 2, Para. [0024], [0027] and [0028]). Therefore, it would have been obvious to one ordinarily skilled in the art at the time of the Applicant's invention to use a flash memory as the removable non-volatile memory module taught by Coombs, since flash memory provides the advantages over removable hard disks in terms of size and easy of transportability. Furthermore, Bell teaches a storage controller which backs up data to a removable non-volatile memory module that is a

flash memory module (see Bell, Col. 4, Ln. 10-17), and it would also have been obvious to one ordinarily skilled in the art at the time of the Applicant's invention to combine Bell's flash memory to Coombs teaching in order to reduce the size and improve the transportability of the backup device.

6. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Coombs [US 2003/0177149 A1] and Bell [5,410,707], in further view of Ban [5,404,485] (hereinafter "Ban").

Per claim 17, Coombs and Bell do not specifically teach that the flash memory module has a flash file system format for storing data. However, Ban teaches a flash memory module that uses a flash file system format (Col. 1, Ln. 5-10) for providing compatible data management with existing operating systems (Col. 1, Ln. 29-49). Therefore, it would have been obvious to one ordinarily skilled in the art at the time of the Applicant's invention to combine Ban's teaching with those of Coomb's and Bell's in order to provide compatible data management on the flash memory with existing operating systems.

Response to Arguments

7. Applicant's arguments with respect to claim 1-20 have been considered but are moot in view of the new ground(s) of rejection. The newly added limitations are taught by Coombs [US 2003/0177149 A1], in further view of Bell and Ban as set forth above.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shawn Gu whose telephone number is (571) 272-0703. The examiner can normally be reached on 9am-5pm, Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Reginald Bragdon can be reached on (571) 272-4204. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Reginald G. Bragdon
REGINALD G. BRAGDON
PRIMARY EXAMINER

Shawn X Gu
Patent Examiner
Art Unit 2189

15 June 2006